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NO. 190

Canadian Forestry Service-Maritimes
TECHNICAL NOTE

FILL-PLANTING AND INTER-PLANTING IN THE MARITIMES

Recent reforestation efforts in the Maritimes have been very successful. Concurrently the cost of plantation establishment and tending has been rapidly increasing. In response to this many reforestation managers have attempted to be more efficient by taking full advantage of natural regeneration, where available, and "inter-planting" to produce a fully stocked stand, or fill-planting to maintain plantation stocking at near 100%.

As the practice of "fill-planting" and "inter-planting" increases is there a question about the need for operational research to provide forest managers with guidelines and procedures to conduct these operations more effectively?

A Survey

In the fall and winter of 1987-88 the Canadian Forestry Service - Maritimes investigated the need for research in this area by surveying reforestation managers with the Provincial Governments, the Forest Industries and Representatives of the Private Woodlot owners in the Maritimes.

Seventy percent of the survey respondents indicated they had undertaken "fill-planting" or "inter-planting" in 1987 and something in excess of 1850 ha had been treated. During the 1988 field season nearly half of the reforestation agencies intend to conduct "fill planting" or "interplanting" operations and approximately 1500 ha are scheduled for treatment in the Maritimes.

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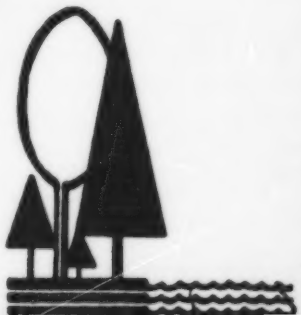

Canadian Forestry Service - Maritimes
P.O. Box 4000, Fredericton, N.B. E3B 5P7
P.O. Box 667, Truro, N.S. B2N 5E5
P.O. Box 190, Charlottetown, P.E.I. C1A 7N2

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Over 95% of the respondents indicated a need for fill planting in their jurisdiction and 75% considered there is a need for operational research.

The criteria used by the the forest managers in the Maritimes are summarized in the following list:

1. Follow original planting rows and replace dead or missing seedlings.
2. Plant only on suitable microsites.
3. Regeneration surveys are often required to determine or verify the need for treatment.
4. Planting stock quality should be optimal.
5. Stocking levels where treatment is considered range from 20% to 80%.
6. Experienced planting crews should be employed.
7. Planting crews are paid on an area basis or hourly rate.

The survey identified eight questions that might be answered by operational research, namely:

What are -

1. The allowable limits of size and spacing of established trees under which supplementary planting would be practical?
2. The guidelines for the selection of stock type to use for planting?
3. The predicted growth rates of natural and planted trees on "inter-planted" sites?
4. The range of stocking level where treatment should be considered?
5. The biological implication of mixed species on stand development?
6. The best logistics of planter productivity and supervision?
7. The best site assessment procedures?
8. The best methods of payment and reimbursement that can be implemented under current forest renewal agreements?

Operational Research

A study underway in P.E.I. may meet some of these research needs. The study conducted during the 1987 field season examined the costs and strategies of fill-planting in year old plantations. The results of this joint Federal/Provincial undertaking will be reported by July 88 in a P.E.I. Dept. of Energy and Forestry publication entitled "Fill-planting - P.E.I. 1987".

The additional questions all or in part will be addressed by the CFS-M operational research program during the 1988-91 period.

Canada

Bob West

April 1988